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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,547	01/16/2002	Pinyen Lin	109128	7714

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EXAMINER	
KUMAR, SRILAKSHMI K	
ART UNIT	**PAPER NUMBER**
2629	

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/683,547	LIN ET AL	
	Examiner	Art Unit	
	Srilakshmi K. Kumar	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-9 and 11-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-9,11,18-25* is/are rejected.

7)☒ Claim(s) *12-17,26 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The following office action is in response to the Appeal Brief filed June 27, 2005. The finality of the previous office action has been withdrawn. Claims 1, 2, 4-9, 11-27 are pending

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4-6, 9, 11, and 18-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Liang et al (US 6,930,818).

As to independent claim 1, Liang et al disclose an electrophoretic display device (Fig. 1) comprising a unitary spacer layer (Fig. 1, item 12) sandwiched between two conductive film substrates (col. 4, lines 12-23), at least one of which is transparent (col. 4, lines 13-14), the unitary spacer layer defines a multiplicity of individual reservoirs (col. 4, lines 12-23) , where the individual reservoirs being filled with a display liquid (col. 4, lines 12-23), wherein the spacer layer comprises at least one pocket sheeting layer comprised of at least two sheets joined together (col. 9, lines 26-67) and containing a pattern of pockets within the joined sheets, and wherein the pockets define the individual reservoirs (Fig. 6, item 63, col. 9, 26-67).

As to independent claim 6, limitations of claim 1, and further comprising, Liang et al also discloses where selected from the group consisting of (a) a screen in which holes within the screen define the individual reservoirs, (b) a laser punched spacer layer comprised of a laser

ablatable material in a form of a sheet having holes laser punched therein in which the laser punched holes define the individual reservoirs, (c) a pocket spacer layer comprised of sheets joined together and containing a pattern of pockets within the sheets in which the pockets define the individual reservoirs, (d) an etched photoresist layer formed upon one of the conductive film substrates in which holes etched in the photoresist layer define the individual reservoirs, and (e) a composite etched layer comprised of a composite of two photoresist layers sandwiching a conductive film in which holes etched in the composite define the individual reservoirs in col. 5, lines 5-30. Liang et al specifically disclose in col. 5, lines 5-30 wherein the spacer layer is an etched photoresist layer formed upon one of the conductive film substrates in which holes etched in the photoresist layer define the individual reservoirs. Liang et al also disclose that the layer can be made using other microengineering techniques including e-beam writing, dry etching, chemical etching, laser writing or laser interference.

As to dependent claim 2, limitations of claim 1, and further comprising, Liang et al disclose wherein each of the multiplicity of individual reservoirs has a width of about 5 microns to about 200 microns (col. 6, lines 31-40).

As to dependent claim 4, limitations of claim 1, and further comprising, Liang et al disclose wherein the display liquid has a color and contains one set of particles with a different, contrasting color from the color of the colored display liquid (col. 10, lines 17-24).

As to dependent claim 5, limitations of claim 1, and further comprising, Liang et al disclose wherein the display liquid is transparent and contains at least two sets of particles with different, contrasting color to each other (col. 10, lines 17-24).

As to dependent claim 9, limitations of claim 6, and further comprising, Liang et al disclose wherein the spacer layer is the laser punched spacer layer (col. 5, lines 5-30, wherein Liang et al disclose where the spacer layer is laser punched).

As to dependent claim 11, limitations of claim 1, and further comprising, Liang et al disclose wherein the pockets of the pocket sheeting layer are formed by dimples in one of the at least two sheets (Fig. 6).

As to dependent claim 18, limitations of claim 6, and further comprising, Liang et al disclose wherein the spacer layer is the etched photoresist layer (col. 5, lines 5-30).

As to dependent claim 19, limitations of claim 6, and further comprising, Liang et al disclose wherein the spacer layer is the composite etched layer (col. 5, lines 5-30).

As to dependent claim 20, limitations of claim 19, and further comprising, Liang et al disclose wherein the conductive film of the composite etched layer is a metal (col. 5, lines 5-30).

As to dependent claim 21, limitations of claim 6, and further comprising, Liang et al disclose wherein each of the multiplicity of individual reservoirs has a width of about 5 microns to about 200 microns (col. 6, lines 31-40).

As to dependent claim 22, limitations of claim 6, and further comprising, Liang et al disclose wherein the spacer layer includes solid partition portions separating the individual reservoirs, the solid partition portions having thicknesses of from about 10 to about 100 microns (col. 6, lines 31-40).

As to dependent claim 23, limitations of claim 6, and further comprising, Liang et al disclose wherein the device further includes a conductive path on a bottom surface of one of the

conductive film substrates in a pattern such that each of the individual reservoirs are separately addressable with an electric field (col. 4, lines 12-24).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang et al as applied to claim 6 above, and further in view of DiSanto et al (US 5,276,438).

As to dependent claim 7, limitations of claim 6, and further comprising, Liang et al do not disclose wherein the spacer layer is the screen. DiSanto et al disclose wherein the spacer layer is the screen in col. 5, lines 26-30. It would have been obvious to one of ordinary skill in the art to include the feature of wherein the spacer layer is the screen as disclosed by DiSanto et al into that of Liang et al as the screen functions to prevent inadvertent backlighting due to overall translucence as disclosed by DiSanto et al in col. 5, lines 61-63.

As to dependent claim 8, limitations of claim 7, and further comprising, Liang et al do not disclose wherein the screen is comprised of woven fibers, which have been flattened and fused at fiber joints. DiSanto et al disclose wherein the screen is comprised of woven fibers, which have been flattened and fused at fiber joints in Fig. 1, and in col. 5, lines 26-65. It would have been obvious to one of ordinary skill in the art to include the feature of wherein the spacer layer is the screen as disclosed by DiSanto et al into that of Liang et al as the screen functions to

prevent inadvertent backlighting due to overall translucence as disclosed by DiSanto et al in col. 5, lines 61-63.

5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liang et al as applied to claim 6 above, and further in view of Schulz et al (US 6,819,316).

As to dependent claim 24, limitations of claim 6, and further comprising, Liang et al do not disclose wherein the transparent conductive film substrate comprises a film of polyethylene terephthalate coated with indium tin oxide. Schulz et al disclose in col. 4, lines 5-12, wherein display devices, the substrate is preferably a transparent sheet of polyethylene terephthalate (PET) coated with indium tin oxide (ITO). It would have been obvious to one of ordinary skill in the art to include the feature of wherein the transparent conductive film substrate comprises a film of polyethylene terephthalate coated with indium tin oxide as disclosed by Schulz into that of Liang et al as it will provide a thin flexible substrate for the eletrophoretic display (abstract).

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liang et al as applied to claim 6 above, and further in view of Hoshikawa et al (US 4,640,583).

As to dependent claim 25, limitations of claim 6, and further comprising, Liang et al do not disclose wherein the transparent conductive film substrate comprises a film of polyethylene terephthalate coated with silver. Hoshikawa et al disclose wherein the transparent conductive film substrate comprises a film of polyethylene terephthalate coated with silver in col. 4, lines 44-61. It would have been obvious to one of ordinary skill in the art to incorporate the feature of wherein the transparent conductive film substrate comprises a film of polyethylene terephthalate coated with silver as disclosed by Hoshikawa et al into Liang et al as it will provide a thin flexible substrate for the electrophoretic display (col. 4, lines 44-61, abstract).

Allowable Subject Matter

7. Claims 12-17, 26 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments, see Appeal Brief, filed June 27, 2005, with respect to claims 1, 2, 4-9 and 11-27 have been fully considered and are persuasive. The final rejection of claims 1, 2, 4-9 and 11-27 has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Liang et al, Schulz et al, Hoshikawa et al and DiSanto et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srilakshmi K. Kumar whose telephone number is 571 272 7769. The examiner can normally be reached on 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571 272 3638. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Srilakshmi K. Kumar
Examiner
Art Unit 2629

SKK
April 14, 2006

SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER